Network Centric Operations Industry Consortium Overview

Dr. Kevin J. Reardon
CAPT, USN (Ret.)
NCOIC Executive Director

Our Scope

DoD, DHS, NATO and MoD
International Force Transformation

- NCO is the underlying foundation of “Force Transformation” at the DoD and throughout the armed forces of our allies.
- Force Transformation is a new strategic context
  - New Theory of War based on Information Age principles and phenomena
- New relationship between operations abroad & homeland security dealing with a considerably broadened threat context:
  - State/Non-State
  - Nodal/Non-nodal
  - Symmetric/Asymmetric
  - Traditional/Unrestricted

Why the NCOIC?

Industry Leadership to Reduce NCO Time-To-Market

- A Forum for Subject Matter Experts to Collaborate on NCO Initiatives:
  - Better Understand Customer's NCO Vision, Goals, and Objectives
  - Exchange strategies and proven approaches to enhance system delivery
- An Organization Committed to Establishing Open, Interoperable Systems using Common Best Practices and Systems Engineering Techniques:
  - Facilitates Consistency Across Industry
  - Advocates for Open and Interoperable Systems Design
- Companies Committed to Meeting the Government More Than Half-Way:
  - Understanding Industry's Responsibilities and Acting
  - Addressing the Problem, Taking Initiative, Understanding the Requirement
  - Seeking close collaboration with Government and the rest of industry.

This consortium exists to exchange ideas and produce process and technology deliverables that facilitate force transformation through NCO.

Consortium Vision and Mission

Responding to the Need

- Vision:

> ***Industry working together with our customers to provide a network centric environment where all classes of information systems interoperate by integrating existing and emerging open standards into a common evolving global framework that employs a common set of principles and processes.***

- The Mission of the Consortium is to help accelerate the achievement of increased levels of interoperability within, and amongst, all levels of government of the United States and its allies involved in Joint, Interagency and Multinational (JIM) operations.

Consortium Value Proposition

Consortium Efforts Will…

- **Increase interoperability** within and among systems involved in Joint, Interagency and Multinational operations
- **Lower development costs** and increase commonality of design in future systems – tailored standards and best practices
- **Improve force readiness** through more rapid fielding of network centric systems – leverage technical “lessons learned”
- **Reduce systems cost and sustainability** through re-use and commonality – facilitate ease of integration, upgrade, and support
- **Reduce Development Risk** by Identifying the common components needed for the network centric environment – Develop them where none exist
- **Improve Force Effectiveness** through new, more focused development on domain specific capabilities for the Warfighter

Introducing the Consortium

Current Member Companies

- Leading international aerospace, defense, IT systems, and professional services firms who have extensive experience with:
  - DoD
  - Intelligence Agencies
  - DHS
  - NATO
  - MoDs
  - International Law Enforcement Community
  - State/Provincial and Local Governments.
- New companies of all sizes, “think tanks” and academic institutions.
- Open:
  - Participation open to all,
  - Fair, equitable, and vendor-neutral processes,
  - Work based on relevant industry open standards and practices.

NCOIC Members – October 31, 2005

Total Members: 80
Active Inquiries: 75
Additional Pending Members: 0
Newest Members are in Blue

Tier 1 Members (22)

- BAE Systems, Inc.
- Boeing
- Cisco Systems
- EADS
- EFW
- EMC
- General Dynamics
- Harris Corporation
- Hewlett-Packard
- IBM
- Intel Corp.
- ITT Industries
- L-3 Communications Integrated Systems
- Lockheed Martin
- Northrop Grumman
- Oracle
- Raytheon
- Rockwell Collins
- Saab
- SAIC
- Sun Microsystems
- Thales

Tier 2 Members (3)

- Alcatel Government Solutions
- Factiva
- Israel Aircraft Industries

NCOIC Members – October 31, 2005

Total Members: 80
Active Inquiries: 75
Additional Pending Members: 0
Newest Members are in Blue

Tier 3 Members (55)

- The Aerospace Corporation
- AeroVironment Inc
- AFEI
- Anteon Corporation
- Argon ST
- Ball Solutions Group
- BearingPoint
- CACI
- Camber Corporation
- CB Technologies
- Ciena Government Solutions
- Cryptek, Inc
- Crystal Group
- Cubic Defense Applications
- DCN
- EDISOFT S.A.
- Engenio Information Technologies
- Ericsson
- Finmeccanica
- FlightSafety International
- Honeywell
- INDRA
- Innerwall
- Innovative Concepts, Inc
- Institute for Defense Analyses
- Instrumentoiti Oy
- International Data Links Society
- Johns Hopkins U. Applied Physics Lab
- LynuxWorks Inc.
- Marconi Communications Federal Inc
- MBL International, Ltd.
- McDonald Bradley, Inc
- Microsoft
- MITRE
- Motorola
- Objective Interface Systems, Inc.
- OrderOne Networks
- Real-Time Innovations, Inc
- Rheinmetall Defence Electronics
- RUAG Electronics
- SAP Labs, Inc.
- Sikorsky Aircraft
- Smiths Aerospace
- Software Engineering Institute/Carnegie Mellon University
- SPARTA, Inc
- SRI International
- SuprTEK
- Systematic Software Engineering A/S
- Systems Integration and Development, Inc.
- Terma A/S
- Themis Computer
- University of Maryland, CSHCN
- Wakelight Technologies, Inc
- West Virginia High Tech. Consortium Foundation
- Wind River Systems

Consortium Concept of Operations

- The primary objective of the Consortium is to better enable transformation through NCO by helping our government clients identify common existing and emerging open standards, processes and principles, together with their patterns of use and interoperability.
- The Consortium will achieve this objective:
  - Through the use of commercial and defense best practices, and
  - By leveraging other activities related to increasing interoperability in a network centric environment.
- The Consortium will also act as an advocate for transformation and network centricity and help increase their adoption throughout industry and governments alike.

Consortium Technical Approach

5 "Parallel" Strategies - Helping our customers to:

- Complete a thorough and rigorous analysis of pertinent government agency architectures
  - Customer Requirements Team
- Develop a secure information management overarching architectural framework / reference model to identify open standards and their patterns of use
  - Architectures and Standards Analyses Team
- Identify the widest possible community of open standards-based product types
  - Building Blocks Team
- Develop a program for education for NCO
  - Education and Outreach Team
- To plan and implement strategies to develop effective collaborative engineering environments
  - Engineering Processes Team

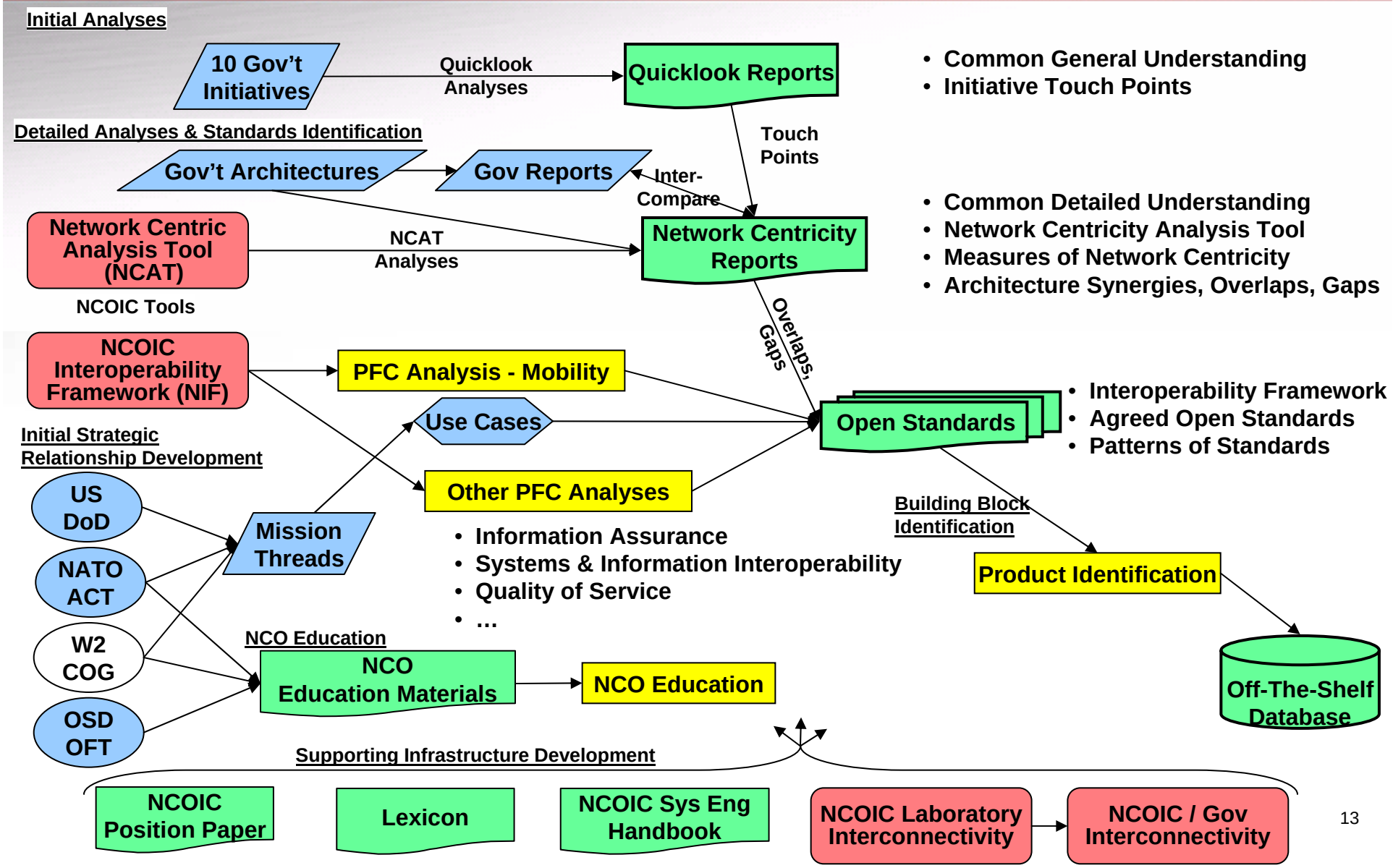
Key Technical Deliverables

- Analysis of government agency architectures, capability needs, and mandated open standards to identify commonalities, synergies, conflicts, gaps and potential areas for improvement.
- The NCOIC Lexicon which provides a common language for use within NCOIC documents.
- The NCOIC Interoperability Framework (NIF)… which provides a Systems Engineering framework to organize and relate the applications, data, and communication elements used by suppliers and system integrators to build and deploy interoperable NCO systems
- Recommendations for Open Standards and their patterns of use (using the structure of the NIF), in specific areas such as Mobile Networks, Services and Information Interoperability, Information Assurance, etc.

Key Technical Deliverables

- The Network Centric Analysis Tool (NCAT)… which delivers a metric based approach to evaluating a system's, subsystem's, or component's *"fitness"* for operating in a net centric environment.
- NCOIC endorsed Systems Engineering Best Practices and Processes, including Tools, Process and Maturity Models, Modeling techniques, and Collaborative Environments for NCOIC Integration.
- An online catalog of Off-The-Shelf, open standards based building blocks for interoperability solutions compliant with the NCOIC framework
- Training and educational materials to promote the awareness, adoption, and use of Network Centric infrastructures and methods.
- Collaborative relationships with other NCO orientated organizations for the joint promotion of Network Centric interoperability.

Technical Roadmap



Summary

- The Consortium Is:
  - Focused: Our sole purpose is to partner with government to enable transformation through NCO.
  - Dedicated to outreach and education to make identified architectures, open standards, and best practices widely available to government & industry.
  - Open: Across Industry, Across Borders
- Comprised of Members of the Production Chain:
  - Ultimately responsible for creating the NCO Solutions,
  - Uniquely capable of affecting true change in the production chain.
  - Highly Inclusive – Industry, Academia, Government.
- The Consortium Is Not:
  - A Replacement of or Competition to Government Forums,
  - Closed to Non-Traditional Industry Partners.

www.ncoic.org